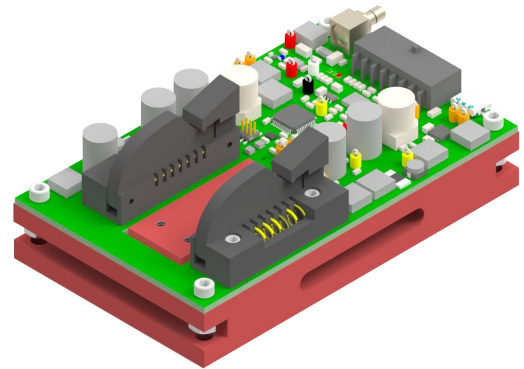


## Introduction

The C490 combines an integrated temperature driver and laser driver with full external digital control in one package.

C490 has low current noise for laser current coupled with high efficiency. In addition, external and internal trigger mode are available for pulsed operation. C490 works seamlessly from low duty operation to CW mode.

C490 has full digital temperature control with current and voltage limits. All features can be controlled via USB with SCPI interface.



## Specification

Features	Laser diode control with integrated temperature control	
Applications	Spectroscopy, Laser, Precision Instrument, OEM applications	
Specifications	Parameter	Value
Power	Single	5V /3A
Laser Current Control	Laser current	0 - 2A. Software current and voltage limit.
	Compliance voltage	> 3.5 V
	Setting accuracy	2 % fs
	Noise (RMS)	< 0.2%
	Current rise fall time	< 100 ns
Laser External Control	Trigger	External and internal
	Trigger impedance	10 kOhm
	Trigger Jitter	20 ns
	Interlock	Yes
TEC control	TEC current	0 ... ± 2.5 A
	TEC voltage	> 3,5V
	Max output power	10 W
	Current limit	Software limit
	Input sensor	Thermistor 2,2—100 kOhm
	PID control	Digital PID control
Connectors	Laser	Integrated Azimuth Electronics 14 pin connector with heat sink.
	Power	Molex MicroFit 8 pin.
	Control	Molex MicroFit 12 pin.
Dimensions (WxHxD)	101.4 x 36.67 x 61.4 mm	
Weight	200 g	
Storage Temp	-55 to 100 C	
Operating Temp	-40 to 85 C	

## Training and support

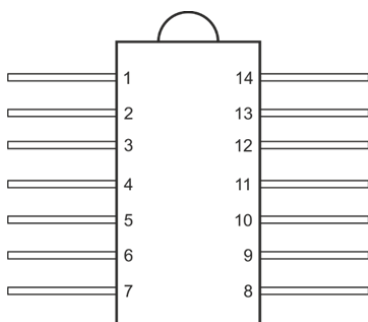
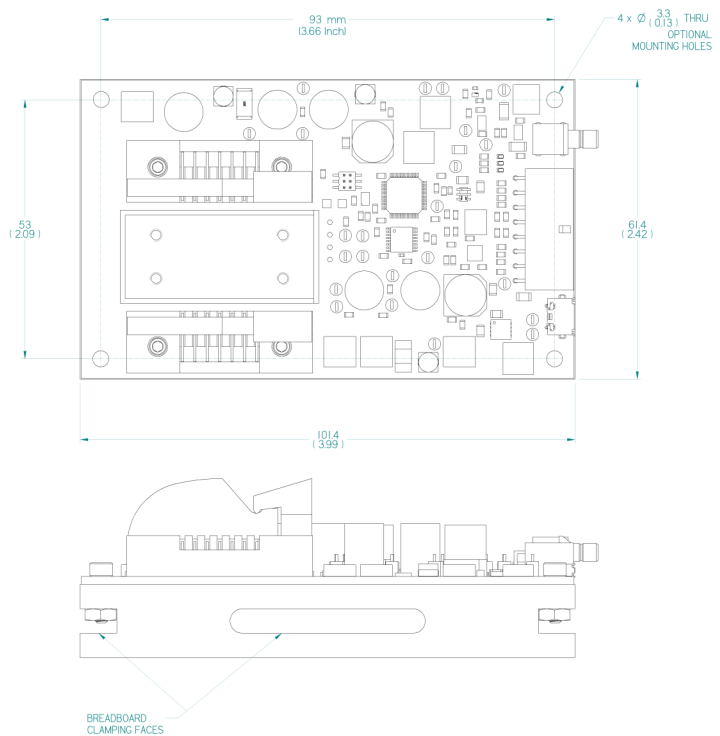
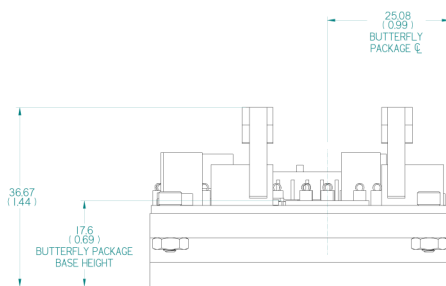
Remote training and support are available. Please contact [info@redwavelabs.com](mailto:info@redwavelabs.com) for more information.

## Absolute Maximum Ratings

Symbol	Parameter	Ratings	Unit
V <sub>dd1</sub>	Supply positive voltage / Laser driver and TEC	+12±10%	Volt
V <sub>dd2</sub>	Supply positive voltage / Separate TEC rail	+5;+10%;-0%	Volt
V <sub>ee</sub>	Supply negative voltage / Laser driver and TEC	-12 ± 10%	Volt
T <sub>op</sub>	Operational Temperature	-40 to 85	Deg C
T <sub>st</sub>	Storage Temperature	-55 to 100	Deg C

## Mechanical Information

Parameter	Value	Unit
Length	3.99 (101.4)	Inch (mm)
Width	2.42 (61.4)	Inch (mm)
Height	1.44 (36.67)	Inch (mm)
Weight	200	gram



## Pin Layout

1	TEC+	14	TEC-
2	TH-	13	Not in use
3	PD+	12	Not in use
4	PD-	11	LD -
5	TH+	10	LD +
6	Not in use	9	Not in use
7	Not in use	8	Not in use